

## ON LUMBAR HERNIA.<sup>1</sup>

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A CONTRIBUTION to the literature of any pathological rarity is worthy of permanent record; and since cases of lumbar hernia are of extreme rarity, I feel justified in offering the history of a case which came under my observation at birth—congenital in the true acceptance of the term—and has been kept under notice for the last six years.

This child, Geo. H. Liversage, was born March 12, 1884, at the little town of Whistler, a small village some six miles from the city of Mobile, and is, consequently, six years of age. His father and mother are both healthy, strong young people, and this boy is their fourth born. The mother's labor was normal, and, with the exception of this hernial protrusion, the child is healthy and well formed. When about two months of age the child was brought to my office seeking an opinion and treatment; the grandmother informing me that there was "a large wen" on the child's left side, and they wished something done for its removal.

I at once recognized the nature of the protrusion, counseled against any operative proceedings, but advised the use of a supporting bandage. At my request the mother consented to have the case photographed, the illustrations of which are herewith presented.

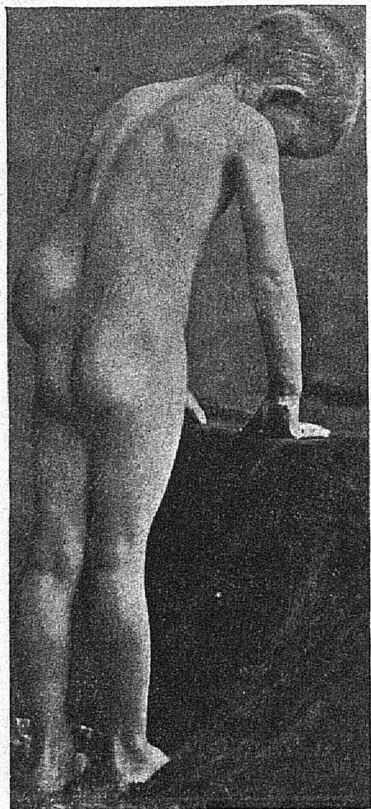
The only treatment possible—a supporting bandage—was applied, but the inconvenience of constantly readjusting it caused the mother to neglect its use, and the child was left with no other support than that afforded by the usual diaper, which in this instance was made to swaddle the infant higher

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upon the back, and more up upon the sides than it is usually applied.

After a year the parents left Alabama and went to reside in Texas, where they remained until about eighteen months or two years ago, when they returned to Whistler, and since that date I have had an opportunity, from time to time, of seeing and examining the case. He is now a well-grown, healthy boy of six years of age, and, although wearing no support, he suffers not the least inconvenience whatever from the protrusion, which now measures  $9\frac{1}{2}$  inches in its long axis, with a transverse diameter of 9 inches. To the sense of touch, the contents of the hernial sac appear to be the descending colon with a large mass of small intestines. I am not able to decide whether any omentum is present or not, although the hernial mass appears to be just beneath the skin and transversalis fascia, with no intervening muscular structure. So far as I can determine from an ante-mortem examination, the latissimus dorsi and quadratus muscles, at this locality, are wanting, or, if present, are only in rudimentary form. The outer edge of the hernial opening is close against the transverse processes of the lumbar vertebræ, and only separated from them by a small band of muscular tissue, which is, most likely, the erector spinæ, since I cannot detect any trace of the quadratus or latissimus dorsi. I know of nothing else which it could be. The inner side is bounded by the oblique, but I am unable to make out a defined edge of that muscle since the whole abdominal wall on the left side appears thinned and weakened; the crest of the ilium supports the lower margin of the protrusion. As will be noticed in the illustrations, there is a distinct *direct* inguinal hernia of the left side, but none on the right. For the past four years there has been no support used, and the child not restrained in any of its actions; he romps, climbs, moves around and plays as other boys of his age are accustomed to do, and has no inconvenience whatever from his deformity. He is a very bright boy, and, to all appearances, in the enjoyment of perfect health.

His mother informs me that about two hours after a full meal, and especially so if he has partaken freely of soup or other fluids, the hernia enlarges greatly and becomes tense,



DR. MASTIN'S CASE OF LUMBAR HERNIA AT SIX YEARS OF AGE.

FIG. 1. BACK VIEW.



FIG. 2. SIDE VIEW.

then the little fellow kneads it up with his hands, when it soon subsides and assumes its natural shape, size and appearance, as shown in the illustration. This increase and subsidence in

shape and size after a meal would indicate that the bulk of the hernial contents is composed of small intestines.

For a great many years lumbar hernia has been known occasionally to take place, but the instances have been so very rare, that it may be properly considered as one of the anomalies of intestinal protrusion; and so rare is it that very few of the concise treatises on surgery make any mention whatsoever of the subject. I know no author who has written a special work upon hernia who has made even an allusion to its possible occurrence. Neither Sir Astley Cooper nor Mr. Lawrence (whose works on hernia are the standard authorities) have made any reference to the anatomical weakness of the loin as liable to give exit to a hernial protrusion, nor do they speak of the possibility of any such occurrence taking place.

That small triangular space bounded by the crest of the ilium, the margins of the external oblique, and latissimus dorsi muscles, known to anatomists as the "triangle of Petit," is a comparatively weak spot in the abdominal wall, through which a hernial protrusion *may take place*, but the anatomical relations are such that strangulation is very improbable. In fact, among the total number, 33 in all, of the cases of lumbar hernia which I have been able to collect, after a long and painstaking research, I find only three cases in which anything like true strangulation has taken place; and in two of these an operation was resorted to for their relief; one of them recovered after a lingering illness, the other died. One of the three—(case 3 in the abstract), that of Raverton, was operated upon in 1738, the other, Dr. G. H. Hume's case (32 in the abstract), was done in 1889. The case of Mr. Owen (22 in the abstract) was operated on with the intention of performing a radical cure; for neither strangulation nor obstruction existed at the time of the operation.

Notwithstanding the weakness of that portion of the abdominal wall—the space designated as "Petit's triangle"—we have been unable to find any evidence going to prove that the presence of this triangle exerts any influence whatever in the development of the hernial protrusion. With the single exception of case 31, that of Mr. Hutchinson, no post-mortem examination has been made of any one of the recorded cases,

with the intention of discovering the direct route through which the protrusion had passed; and it was discovered in his case that the hernia, although appearing to come through the triangle, in reality passed above the triangle, outside of the quadratus lumborum, and through the transversalis and latis-simus dorsi muscles, at that point where the latter comes from the fascia covering the erector spinæ muscle.

An interesting feature shown at the autopsy of Mr. Hutchinson's case, was the absence of any peritoneal sac. The looseness of the attachments of the peritoneum in this region is well known, and is taken advantage of in certain operations, such for instance as the removal of the kidney through a lateral incision. So in this case it was quite easy to make the peritoneum, by gentle pressure, protrude into the hernial opening; and as it is quite certain that it had habitually during life contained intestine, it is obvious that every time the latter was reduced the peritoneal sac must have returned with it into the abdominal cavity. Whether this feature has been present in other cases of lumbar hernia it is impossible to decide, but if so, it is one rarely met with in connection with the more common varieties of hernia.

As to the portion of the intestine usually contained in a lumbar hernia, it is a very difficult matter to decide in the absence of a post-mortem examination, and such examinations have not been made in a sufficient number of instances to enable us to establish a rule by which we can say positively what is the contents of any given case.

The colon, from its relation to the parts both on the right and the left, is the viscus most liable to escape through the opening, but the case of Raverton proves that the small intestines are also found to be in the hernia; and Baron Larrey's case showed a mass of omentum forming a part of its contents.

The coverings of a lumbar hernia are irregular, and no evidence exists to prove that there is any uniformity in the investing tissues, for it depends entirely upon the way in which the protrusion takes place, it not being certain that it escapes through the triangle of Petit. From the fact that Petit's name and triangle have been so long associated with this form of hernia, the idea is prevalent that its place of exit is through



this weakened place in the abdominal wall, and that to Petit is due the credit of having first described this form of hernia; this is, however, an error, for Barbetta, in 1650, mentioned this variety of rupture, and Garengot, in 1731, Raverton, in 1750, together with Lachauss, in 1759, all described it, long before Petit published his case in 1783. The case of Mr. Edmund Owen (case 23) did, according to his statement, pass through the triangle; but the cases of Hutchinson and Braun, where an opportunity was had to inspect the exact locality of the hernia, it was found that neither one passed through that opening, and in reality in Mr. Braun's case the triangle did not even exist! In the case of Dr. Hume, although no post-mortem was permitted, he observed at the time of his operation for strangulation that "the sac communicated with the general peritoneum by a small slit-like opening, and across the neck there were stretched two tense cords which were the agents in producing strangulation." He says "the rupture did not appear to have protruded through the triangle of Petit, as is stated to be the rule in cases of lumbar hernia." In my own case the hernia has not passed through the triangle, because it is very evident that the muscles which go to form that triangle are, to a great degree, wanting, and consequently no defined triangle can exist. Besides these facts, according to the observations of Lesschaft, the triangle of Petit is nearly always wanting in children, and absent in about every fourth adult.

As to the causes which have produced this variety of hernia, I find, after a careful analysis of the 33 cases which I have collected and tabulated, only one can be considered of spontaneous origin; 27 of them were in adults or elderly persons; 6 were in children, 3 of which were congenital; 17 were in males; 15 in females; 20 were on the left side, 10 on the right, 1 on both sides, and 2 the side not mentioned; 4 followed the track of an abscess, and that the abscess itself had probably, in finding its way to the surface followed the course of a nerve, which was most likely the lowest posterior lumbar branch; to 11 of these cases no cause was attributed; 2 cases resulted from carries and necrosis; 1 was due to old age and prolonged child-bearing; 11 caused by strains, wounds or severe injuries. The spontaneous case was in an adult, whilst those due to abscess

were in younger persons. To account for the three congenital cases is not possible, since there is nothing in the development of the abdominal wall to account for the formation of a gap in the lumbar region.

Owing to the frequency of confounding lumbar hernia with abscess, it is important that a clear diagnosis should be made. The absence of fluctuation, the resonance and reducibility of a tumor in the lumbar region should serve as an important guide. The knowledge that such a hernia is possible should place the surgeon on the alert in all cases where he is in the least doubt as to the true nature of an enlargement in the region of the loin. The case which came under the care of Prof. Dolbeau is an instance of this necessity, for being mistaken for an abscess, the intestine was incised and a fœcal fistula resulted. The diseases most likely to be confounded with this hernia, are hernia of the muscle itself, sarcomata, hæmatoma, perinephritic abscess, hydronephrosis and carcinomatous tumors of the kidney. By a careful exclusion of first one and then another, we may arrive at a correct diagnosis. Whilst hydronephrosis bulges at the same place, it is painless, has no resonance and is not reducible; a perinephritic abscess is always sensitive, and productive of a high range of temperature; whilst on the other hand, carcinomatous tumors are not, as a rule, attended with febrile symptoms, becomes a fact which will throw light in differentiating them from perinephritic and other abscesses; they are not so liable to be taken for this hernia, since their history and course will measurably exclude them; sarcoma and hæmatoma are infrequent in this region, and a careful inspection will draw a line of distinction between them and lumbar hernia.

The treatment is little more than protecting the protrusion from injury by a well constructed pad and abdominal belt. Should strangulation take place a necessity arises as in the cases of Raverton and Hume, and the operation of herniotomy should be performed. In those cases where the opening through which the hernia passes is small and defined, and symptoms of obstruction or strangulation become present, then the case of Mr. Owen suggests the propriety of a resort to a radical operation.

To those who may be interested in the history and literature of this subject, I believe the annexed abstract of cases, together with the bibliography attached, will be found to comprise all, or a least very nearly all, which, to this date, has been written upon the subject of lumbar hernia.

## ABSTRACT OF CASES.

CASE 1. A female, æt. 30 years, 3" from anterior superior spine apparently through Petit's triangle, 8 cm. in diameter, containing intestine only, easily reducible, appeared during straining effort. A similar triangular aperture could be made out on the other side—side not stated.—Hardy: *Bull de l'Acad. de Med.*, vol. 34, p. 124.

CASE 2. A female, age not stated, in making a false step felt sudden pain in right loin, then vomiting came on from which patient died. Garengot, after death, found a tumor "the size of a nut" which suddenly disappeared with gurgling sound during taxis.—Garengot: *Traite des operations*, 1731.

CASE 3. A female, middle age. After vomiting for three weeks, a tumor appeared in the left side. Raverton operated for strangulation, let out some pus, then ligatured a mass of inflamed omentum and returned 3 coils of small intestine. The woman was pregnant at the time, and some days after the operation the intestines came out again at each dressing. The patient made a lingering, but complete recovery, and gave birth to a living child.—Raverton: *Traite des plaies armes à feu*, 1750.

CASE 4. A middle aged man, with other hernial protrusions, also had a lumbar hernia in both the right and left sides, but no full particulars are given.—*Lachausse*, 1759.

CASE 5. A female, middle age, pregnant, developed lumbar hernia, on the left side, about the size of a child's head; it was usually reducible but became strangulated, and was *perhaps* operated on, but unfortunately no details are given as to this point.—I. L. Petit: *Traite des maladies Chir.*, tome ii, 1783.

CASE 6. A man, 65 years of age, had a lumbar hernia of the right side to appear suddenly after a strain or violent exertion. It was subsequently reducible, but symptoms of strangulation developed a few months later, which, when the patient lay prone reduction could be affected, and a truss would keep the hernia back.—Cloquet: *These sur les hernies*, 1819.

CASE 7. A female, whose age is not given, after a fall complained



of severe lumbar pains, and was long treated for "pleurisy." Some 36 years later an abscess developed in the loin and a loop of intestine was exposed. After a while the site of the abscess healed, but no mention is made as to the effect upon the hernia.—Van Huegel: *Gaz. de Hopitaux*, 1848.

CASE 8. A female child, about one year, of age, was found with a left lumbar hernia of small size, which was easily reduced.—Colles: *Dublin Journal*, May, 1857.

CASE 9. A middle aged man, after a severe blow on the loin, developed a lumbar hernia of the left side, which was about the size of the fist, and was easily reduced. It was cured by the constant use of a belt truss. At first it gave rise to many errors of diagnosis.—Nelaton: *Verbal Communication to Baron Larrey*.

CASE 10. A middle aged man, a similar case to the last, had a right lumbar hernia appear some length of time after a like injury.—Chaplain: *Bull. de la Soc. de Med. de Marseille*.

CASE 11. A female, forty years of age, had a lumbar hernia of the left side which was as large as a foetal head at term. It was, apparently, a fatty hernia in its origin, but contained intestine and the skin was tightly stretched over it.—Marmisse: *Gaz. des Hopitaux*, 1862.

CASE 12. A male child, æt. 1 year, had a left lumbar hernia; when he came under observation of the surgeon, at the age of 18 years, it was about the size of an apple, and had been supposed to be a lipoma; "it swelled out when he coughed and could be reduced." a belt was applied.—Basset: *Bull. de la Soc. de Med. de Toulouse*, 1864.

CASE 13. A man, æt. 67 years, presented with a lumbar hernia of the left side; it was said to have originated from a blow on the loin with the fist; it gave but little trouble and was only partly reducible. A belt with metal pad was applied.—Grynfelt: *Montpelier Med.*, tome xvi.

CASE 14. A man, æt. 46 years, had a lumbar hernia of the left side, which followed upon the healing of an abscess which originated in a severe contusion of the part. It could be wholly reduced and kept in place by a belt.—Sistach: *Recueil des memories des Med. Militaire*, 3d series, tome xix.

CASE 15. An elderly woman had a lumbar hernia of three years, duration situated in the left loin. It was probably a fatty hernia, though suspected to be omental; it was easily reduced, as it was of small size.—Auzias-Turenne: *Verbal Communication to Baron Larrey*.

CASE 16. A female, whose age is not given, nor the side mentioned, had a lumbar hernia which was mistaken for an abscess and incised; a foecal fistula was the result but fortunately this ultimately healed.—*Prof. Dolbeau.*

CASE 17. A man, æt. 28 years, was shot in the abdomen and the ball lodged in the left loin; at this point an abscess formed; after its cicatrisation a hernia developed close to the scar. It was at first mistaken for an inflammatory swelling, but could be mostly reduced only some omentum remaining. After death this was confirmed by dissection; the opening was oval and just below the last rib.—*Larrey: Bull. de l'Acad. de Med., 1869, p. 160.*

CASE 18. A man, æt. 54 years, had a lumbar hernia of the left side, about the size of a small orange. It was evidently composed of fat, but at times intestine could be detected in its centre. It was accompanied by vague pains radiating from the loin, and *thought* to protrude through Petit's triangle.—*Gosselin: Gaz. Med. de Paris, 1881, p. 125.*

CASE 19.—A patient, sex not stated, æt. 6 years, had a lumbar hernia of the left side, after a severe fall in which the head and right side of the trunk were injured. It appeared to contain intestine and was reducible. The child died on the second day from the head injuries, but no post mortem was made.—*Decaisne: Bull. de la Soc. de Med. de Gand, Jany., 1839.*

CASE 20. An aged female had a lumbar hernia of the left side, oval in shape, and about the size of an egg. It was largely fatty, but contained also intestines which could be reduced. The hernia caused, at times, vomiting and colic, but was never positively strangulated. It had been noticed five years before she came under the care of a surgeon.—*Marquez: Soc. Med. du Haut Rhin, 1869.*

CASE 21. A similar case to the last, with no mention of sex or side, but simply "an aged person," who had a lumbar hernia which gave no trouble, is reported by *Levy: Gaz. Med. de Strasburg, 1869, p. 275.*

CASE 22. An aged female had a lumbar hernia which twice became incarcerated, causing sickness and pain, when it was reduced and a belt applied. The side is not mentioned in the report by *Triponel: Gaz. Med. de Strasburg, 1869.*

CASE 23. A female child, æt. 6 years, had a lumbar hernia to develop in the right loin, as large as a small orange, at the site of a previous abscess. The hernia probably contained the colon. It was cured by a radical operation in which the sac was pushed back into the abdominal cavity without being opened, and the muscles sutured.—*Mr. Edmund Owen: Brit. Med. Jour., May 5, 1889.*

CASE 24. A male child, æt. 4 years, with an abscess of the left lumbar region, between crest of ilium and last rib. A surgeon had opened it and a large quantity of pus was discharged. It healed after some months, when a month after healing a tumor made its appearance, at a point where the quadratus and latissimus dorsi muscles intersect the internal and external oblique muscles, about the size of a goose egg; it was soft, and pressure forward and inward reduced it with a gurgling sound. It reappeared under coughing or muscular exertion.—Wellington N. Campbell, M.D.: *N. Y. Med. Jour.*, vol. 19, 1874.

CASE 25. A female, æt. 70 years, presented with a large tumor on right side of abdomen, commencing on a line between the false ribs and crest of ilium, and extending around in front nearly to the umbilicus; it was about 10 inches in diameter, irregular in form, apparently sub-cutaneous, soft and flabby, and under gentle pressure easily reduced into the cavity of the abdomen.—Jno. W. Currier, M.D.: *The Cincinnati Lancet and Clinic*, new series, vol. 3, page 98. 1880.

CASE 26. A female, æt. 63, with a lumbar hernia of the right side, about the size of a tea cup. It now and then presented some of the symptoms of a strangulation, but was easily reduced and retained by a bandage and compress. The woman was feeble and relaxed, the result of child-bearing. Pressure upwards, backwards and inwards reduced it. No history of injury.—John P. Apperson, M.D.: *Virg. Clin. Rec.*, vol. 3, page 651, 1873-4.

CASE 27. A male adult had a lumbar hernia of the right side; its diameter was 5", and was said to have protruded through Petit's triangle (?) and contain ascending colon—reducible.—Coze: *Revue Medicale*, 1874, tome 1, p. 407-410.

CASE 28. An adult male had a lumbar hernia on the right side, which was mistaken for an abscess and incised. This hernia was much smaller than the first case; both were in the persons of strong artillery men, and in both attributed to strains in riding.—Coze: *Revue Medicale*, 1874, quoted.

CASE 29. A male, æt. 33, had suffered from spinal caries and double lumbar abscess. The hernia followed close to the discharging sinus on the left side. After death the opening was found to be through the latissimus dorsi muscle, and a close investigation proved that Petit's triangle was wanting, and no evidence that it had existed.—D. H. Braun, *Langenbeck's Archives*, 24, page 213.

CASE 30. A man, æt. 24 years, had a right lumbar hernia which came through an aperture caused by necrosis of part of iliac crest, easily reduced, said to contain receding colon.—*Lang. Arch.*, 25, page 908.

CASE 31. A man, æt. 65 years, having died, a lumbar hernia of left side was discovered in the dead house. This case afforded an opportunity for a very careful post-mortem examination, which is the only recorded instance in which the pathological condition of the parts have been accurately studied. Mr. Hutchinson found that the hernia was originally a fatty protrusion which passed through a distinct round opening in the latissimus dorsi muscle, and to the inner side of the so-called Petit's triangle. The hernia contained intestines and was covered by a peritoneal sac, which sac returned with the intestines when the latter was reduced.—Jonathan Hutchinson, Jr., F.R.C.S.: *British Medical Journal*, July 13, 1889, page 71.

CASE 32. A man, æt. 68 years, had noticed a lump in his left side for 15 years. Usually it was about the size of his fist, but frequently it became larger, and never altogether disappeared. On several occasions it became enlarged, painful, and evidenced symptoms of obstruction. When seen the tumor was as large as a child's head and occupied the left lumbar region. Symptoms of strangulation for the last two days, and an operation resorted to for relief. The sac contained a coil of small intestines, inflamed and granular, then another coil gangrenous, and also the sigmoid flexure, which had become twisted upon itself. The sac opened into the peritoneal cavity, and across its neck were two fibrous cords which had produced the strangulation. Upon the division of these cords, reduction was easily accomplished. The gangrenous coil of small intestines was excised to the extent of 13 inches and united by Lembert's stitches of fine silk; the sac carefully separated from its attachments, cut away at the neck, and, together with the margins of the wound, carefully united by a continuous suture of fine cat-gut. There was no autopsy permitted two days after, when the patient died, but observation at the time of the operation showed that protrusion took place in front of the quadratus and had expanded but not perforated the latissimus dorsi, the sac lying between the muscle and the aponeuroses of the transversalis. The rupture did not seem to have come through the triangle of Petit, as it has been commonly supposed to do.—G. H. Hume. M.D., *Brit. Med. Jour.*, July 13, 1889, page 73.

CASE 33. A male child, at birth, showed large lumbar hernia of left side.—C. H. Mastin, M.D., *Subject of this report*.



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